FIG. 1

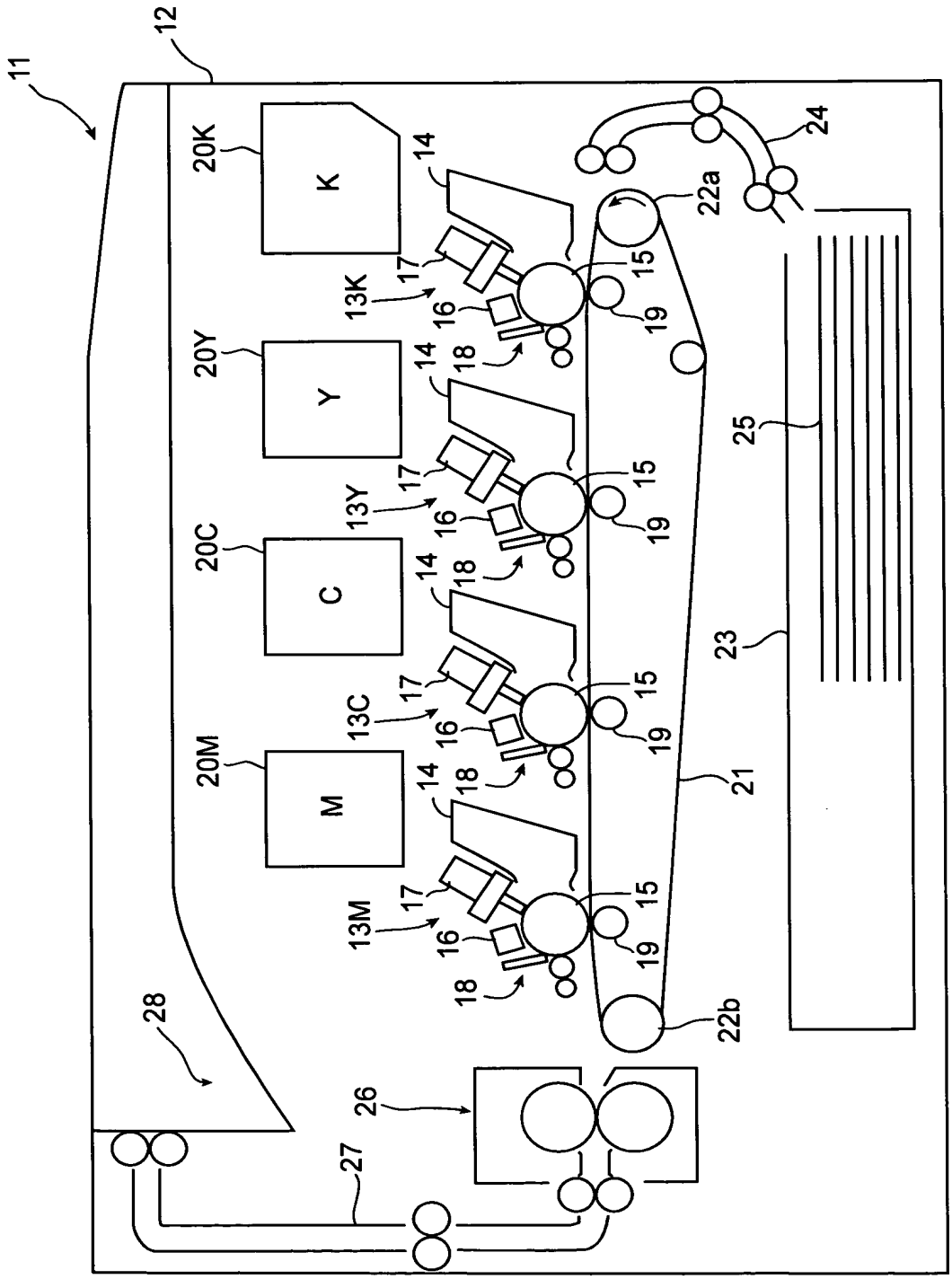

11
12
20K
K
20Y
Y
20C
C
20M
M
13K
13Y
13C
13M
14
15
16
17
18
19
21
22a
22b
23
24
25
26
27
28

FIG. 2

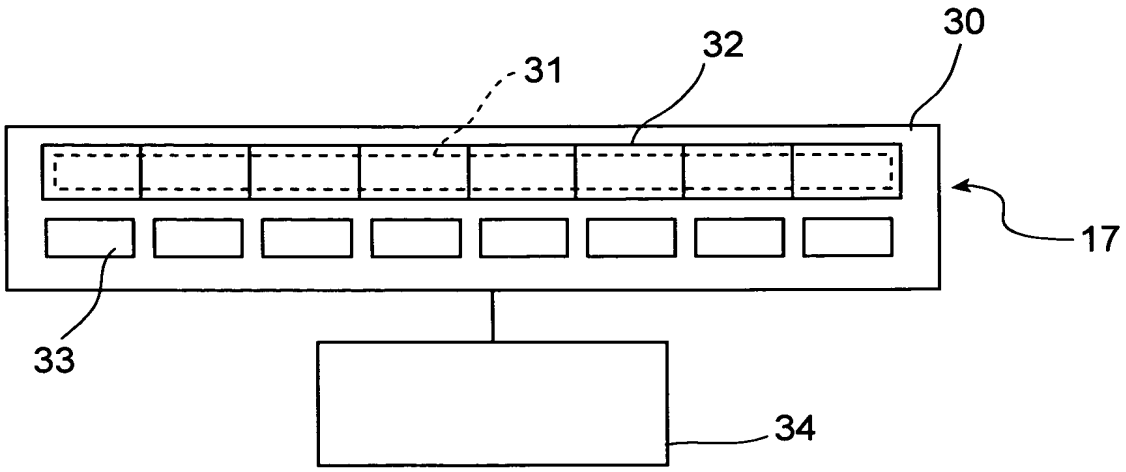


FIG. 3

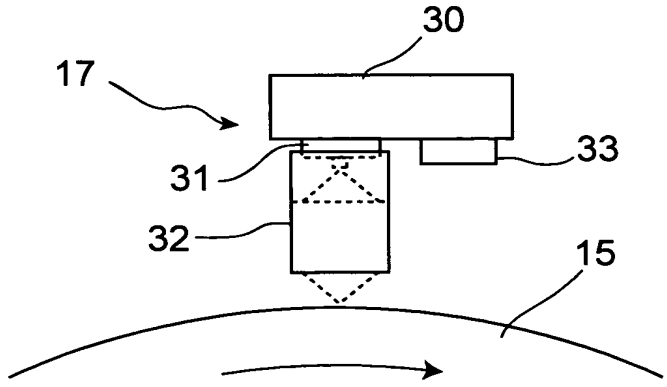


FIG. 4

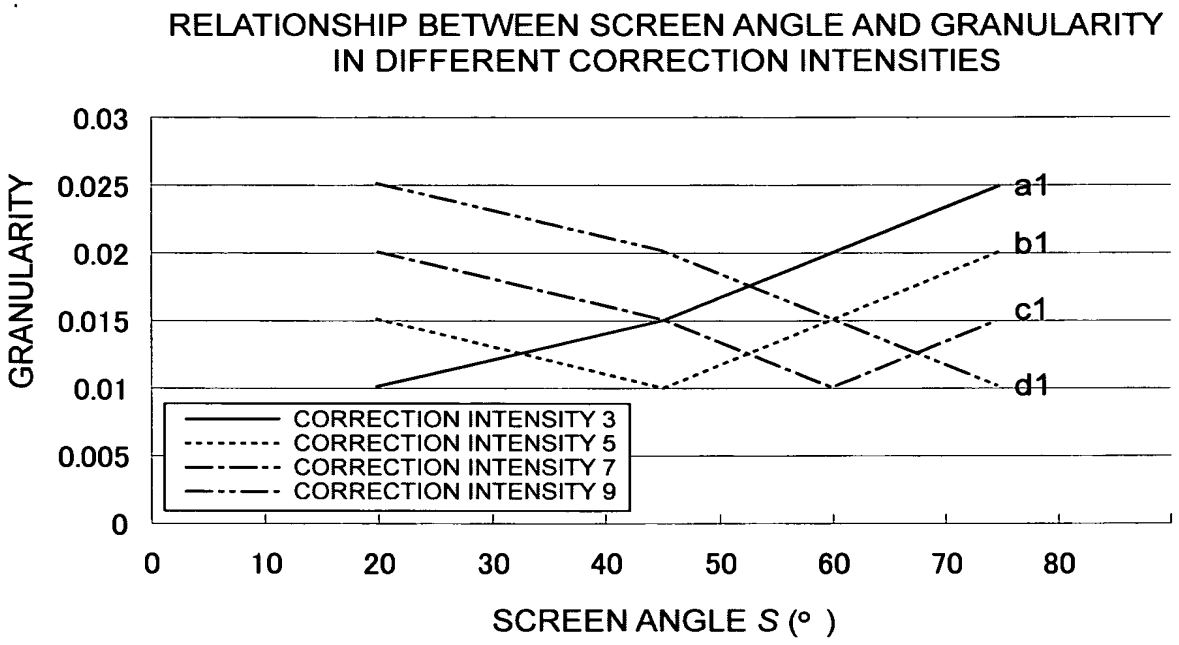

RELATIONSHIP BETWEEN SCREEN ANGLE AND GRANULARITY IN DIFFERENT CORRECTION INTENSITIES
GRANULARITY
0.03
0.025
0.02
0.015
0.01
0.005
0
0
10
20
30
40
50
60
70
80
SCREEN ANGLE S (°)
a1
b1
c1
d1
CORRECTION INTENSITY 3
CORRECTION INTENSITY 5
CORRECTION INTENSITY 7
CORRECTION INTENSITY 9

FIG. 5

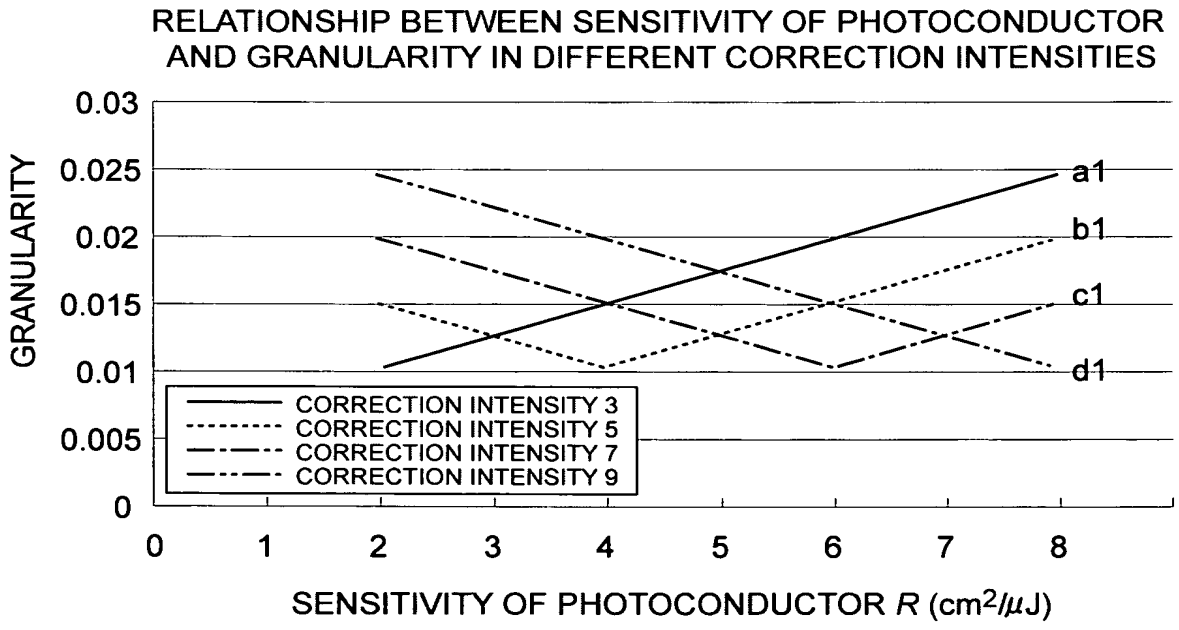

RELATIONSHIP BETWEEN SENSITIVITY OF PHOTOCONDUCTOR AND GRANULARITY IN DIFFERENT CORRECTION INTENSITIES
GRANULARITY
0.03
0.025
0.02
0.015
0.01
0.005
0
0
1
2
3
4
5
6
7
8
SENSITIVITY OF PHOTOCONDUCTOR R (cm2/μJ)
a1
b1
c1
d1
CORRECTION INTENSITY 3
CORRECTION INTENSITY 5
CORRECTION INTENSITY 7
CORRECTION INTENSITY 9

FIG. 6

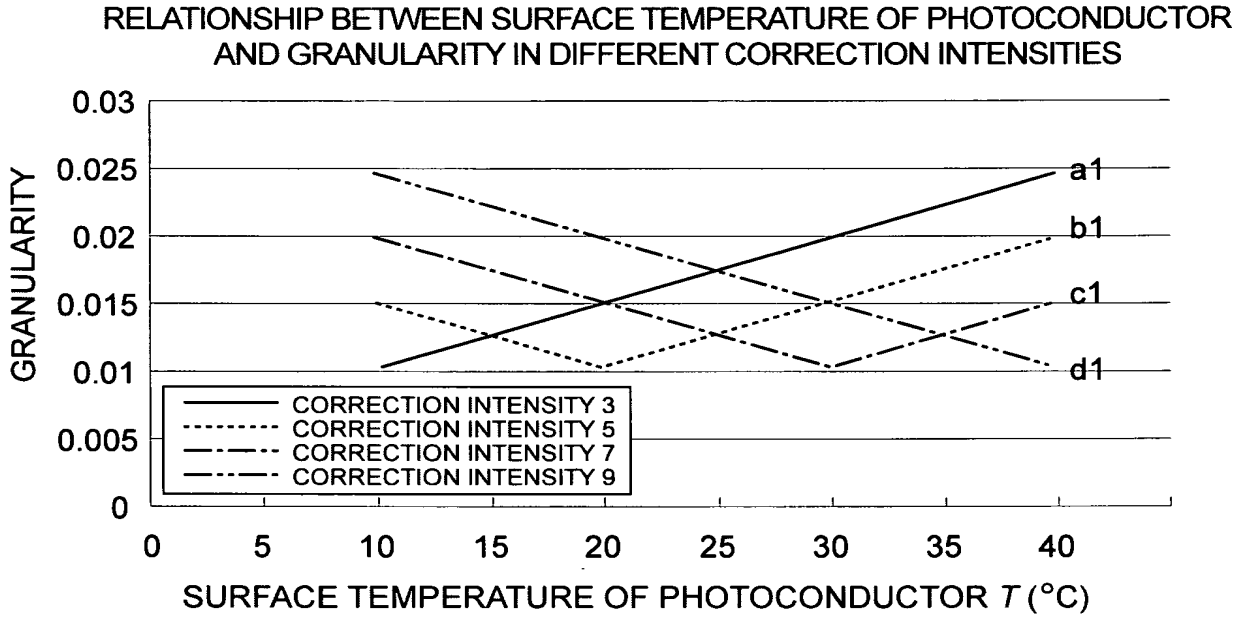

RELATIONSHIP BETWEEN SURFACE TEMPERATURE OF PHOTOCONDUCTOR AND GRANULARITY IN DIFFERENT CORRECTION INTENSITIES
GRANULARITY
0.03
0.025
0.02
0.015
0.01
0.005
0
a1
b1
c1
d1
CORRECTION INTENSITY 3
CORRECTION INTENSITY 5
CORRECTION INTENSITY 7
CORRECTION INTENSITY 9
0
5
10
15
20
25
30
35
40
SURFACE TEMPERATURE OF PHOTOCONDUCTOR T (°C)

FIG. 7

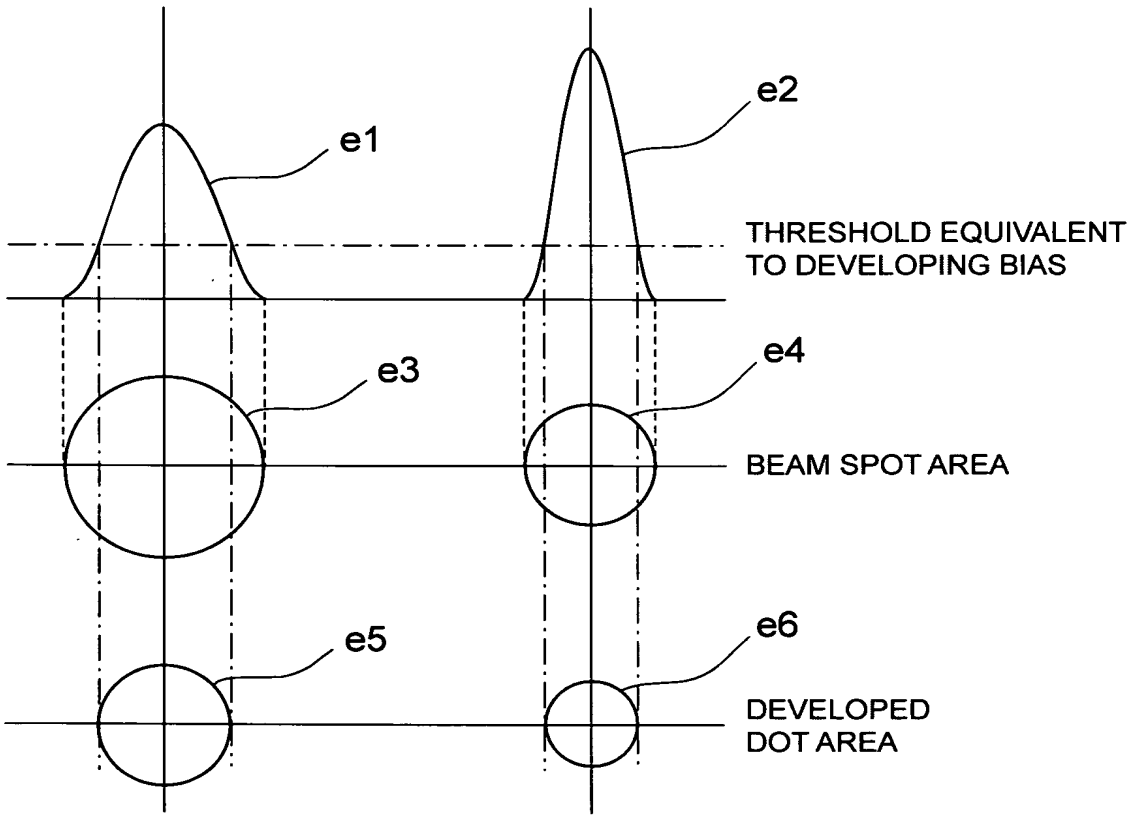

e1
e2
THRESHOLD EQUIVALENT TO DEVELOPING BIAS
e3
e4
BEAM SPOT AREA
e5
e6
DEVELOPED DOT AREA

FIG. 8

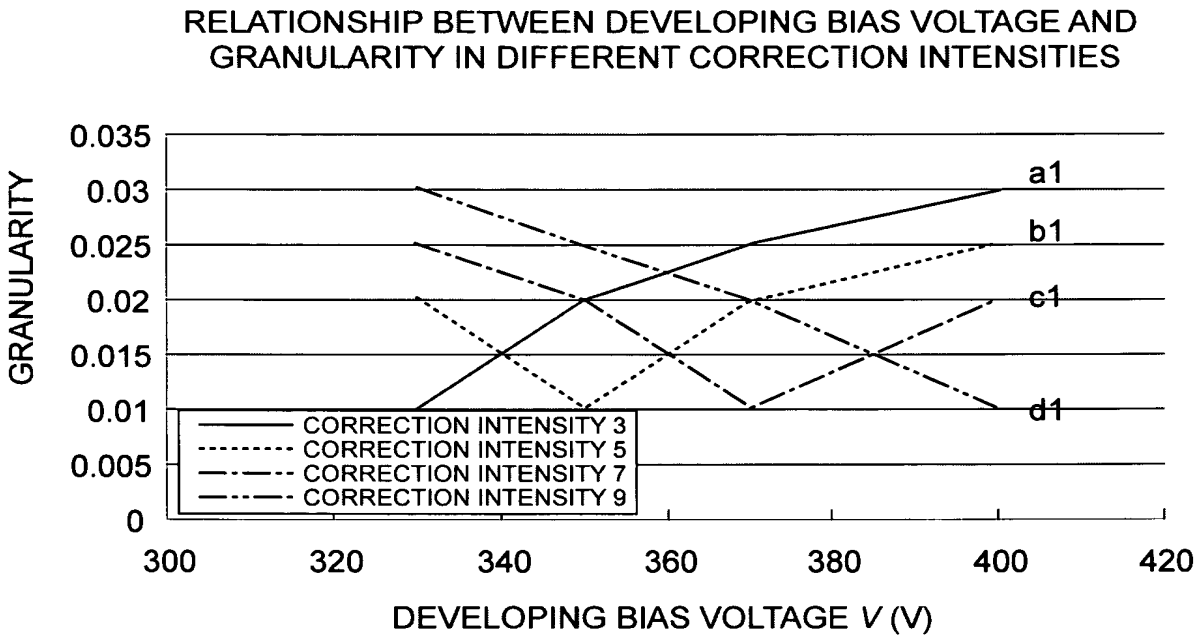

RELATIONSHIP BETWEEN DEVELOPING BIAS VOLTAGE AND GRANULARITY IN DIFFERENT CORRECTION INTENSITIES
GRANULARITY
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
300
320
340
360
380
400
420
DEVELOPING BIAS VOLTAGE V (V)
CORRECTION INTENSITY 3
CORRECTION INTENSITY 5
CORRECTION INTENSITY 7
CORRECTION INTENSITY 9
a1
b1
c1
d1

FIG. 9

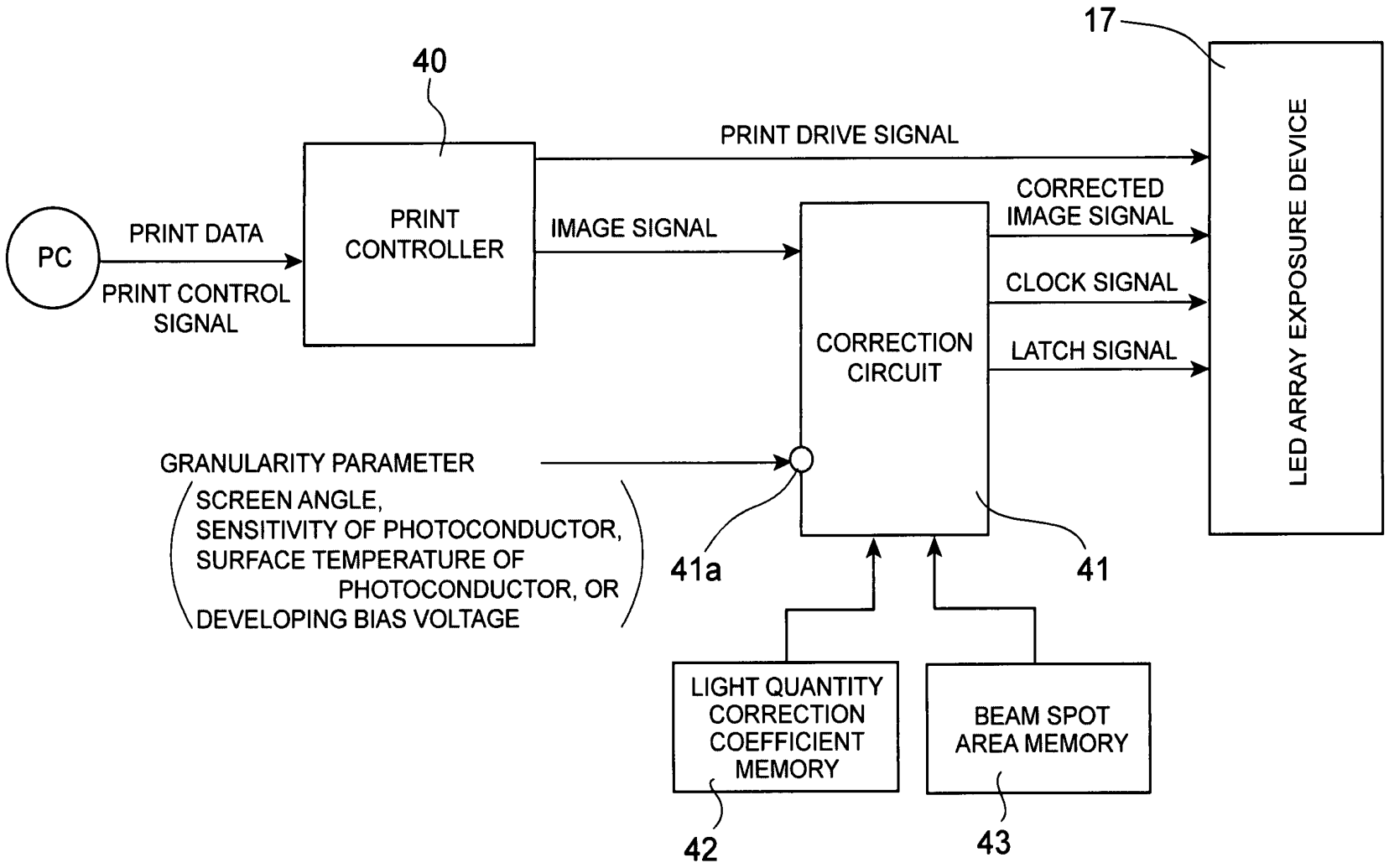

17
40
PRINT DRIVE SIGNAL
PC
PRINT DATA
PRINT CONTROL SIGNAL
PRINT CONTROLLER
IMAGE SIGNAL
CORRECTED IMAGE SIGNAL
CLOCK SIGNAL
LATCH SIGNAL
CORRECTION CIRCUIT
LED ARRAY EXPOSURE DEVICE
GRANULARITY PARAMETER
SCREEN ANGLE,
SENSITIVITY OF PHOTOCONDUCTOR,
SURFACE TEMPERATURE OF PHOTOCONDUCTOR, OR
DEVELOPING BIAS VOLTAGE
41a
41
LIGHT QUANTITY CORRECTION COEFFICIENT MEMORY
BEAM SPOT AREA MEMORY
42
43

FIG. 10

S1	PIXEL	n	1	2	3	4	5
S2	GRANULARITY PARAMETER						
	-SCREEN ANGLE	S	90°				
	-SENSITIVITY OF PHOTOCONDUCTOR	R	4 $cm^2/\mu J$				
	-SURFACE TEMPERATURE	T	30℃				
	-DEVELOPING BIAS VOLTAGE	V	320V				
S3	LIGHT QUANTITY CORRECTION COEFFICIENT	L	1.1	0.8	1.5	0.9	1
S4	BEAM SPOT AREA	A	10	8	15	5	12
S5	AVERAGE OF BEAM SPOT AREAS	M	10				
S6	DIFFERENCE (M-A)	D	0	2	-5	5	-2
S7	RATIO (D/M)	P	0	0.2	-0.5	0.5	-0.2
S8	BEAM SPOT AREA CORRECTION COEFFICIENT	B	ASSIGNING WEIGHT TO RATIO (P) FOR EACH PIXEL				
S9	CORRECTION COEFFICIENT	C	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) FOR EACH PIXEL				
S10	DRIVING CURRENT FOR LIGHT-EMITTING ELEMENT	I	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (C) FOR EACH PIXEL				

FIG. 11

S21	PIXEL	n	1	2	3	4	5	6	7	8	9	... N
S22	GRANULARITY PARAMETER											
	-SCREEN ANGLE	S	90°									
	-SENSITIVITY OF PHOTOCONDUCTOR	R	4 $cm^2/\mu J$									
	-SURFACE TEMPERATURE	T	30°C									
	-EVELOPING BIAS VOLTAGE	V	320V									
S23	LIGHT QUANTITY CORRECTION COEFFICIENT	L	1.1	0.8	1.5	0.9	1	0.5	1.2	1.3	0.5	...
S24	BEAM SPOT AREA	A	10	8	15	5	12	14	6	9	10	...
S25-1	MOVING AVERAGE OF BEAM SPOT AREAS	M1	10									
S25-2		M2		10.8								
S25-3		M3			10.4							
S25-4		M4				9.2						
S25-5		M5					10.2					
S26	DIFFERENCE (M-A)	D	0	2.8	-4.6	4.2	-1.8	...				
S27	RATIO (D/M)	P	0	0.26	-0.44	0.46	-0.18	...				
S28	BEAM SPOT AREA CORRECTION COEFFICIENT	B	ASSIGNING WEIGHT TO RATIO (P) FOR EACH PIXEL									
S29	CORRECTION COEFFICIENT	C	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) FOR EACH PIXEL									
S30	DRIVING CURRENT FOR LIGHT-EMITTING ELEMENT	I	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (C) FOR EACH PIXEL									

FIG. 12A
PRIOR ART

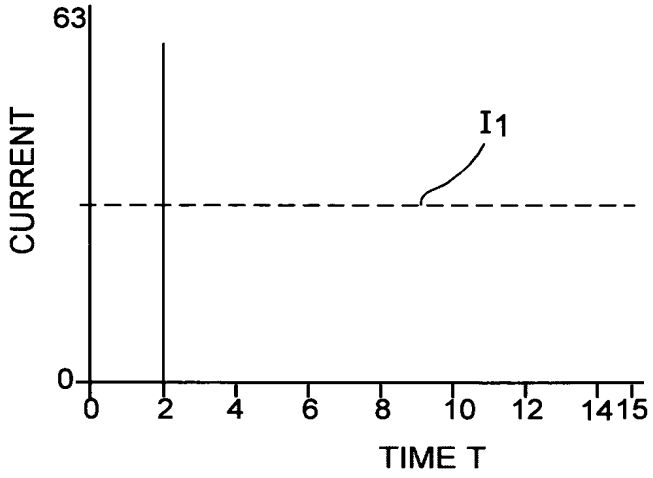


FIG. 12B
PRIOR ART

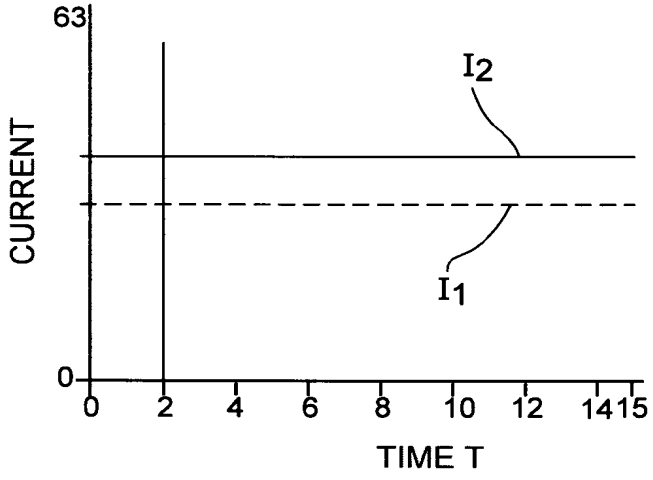


FIG. 12C

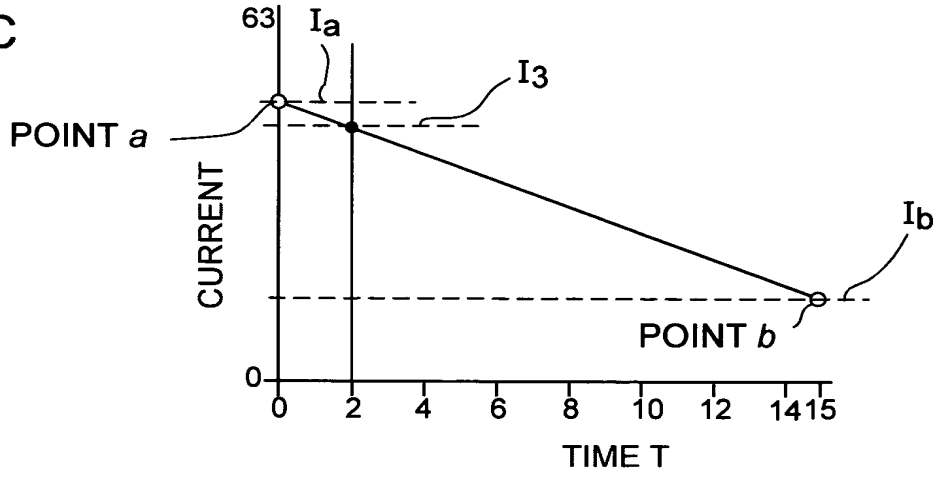


FIG. 13A

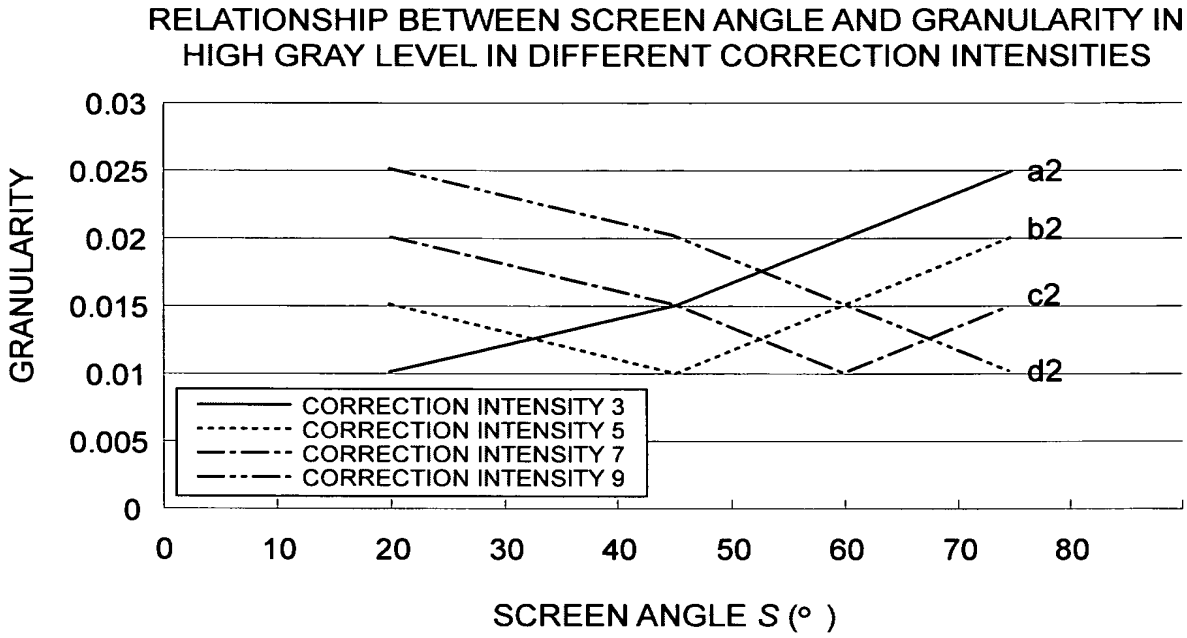


FIG. 13B

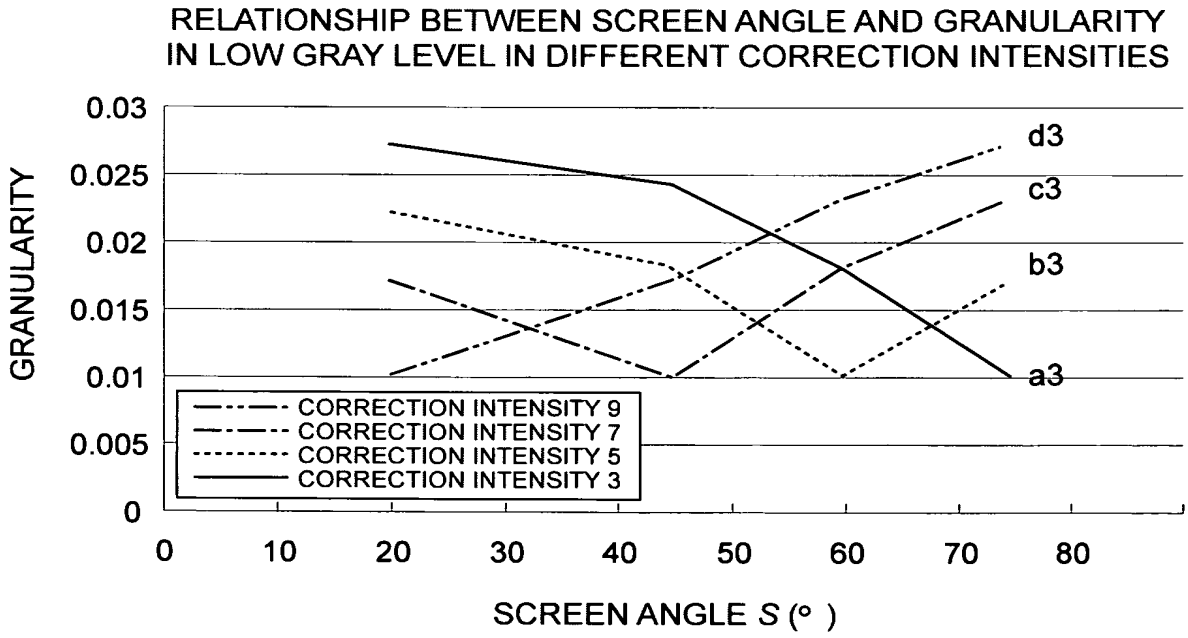


FIG. 14A

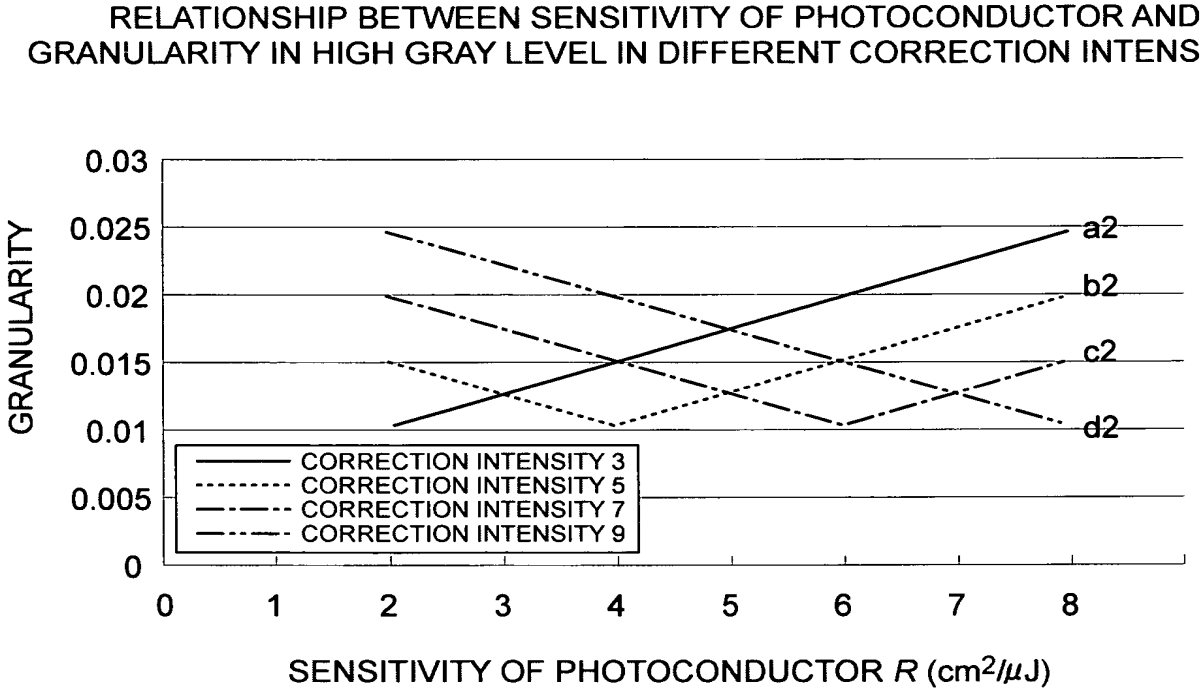


FIG. 14B

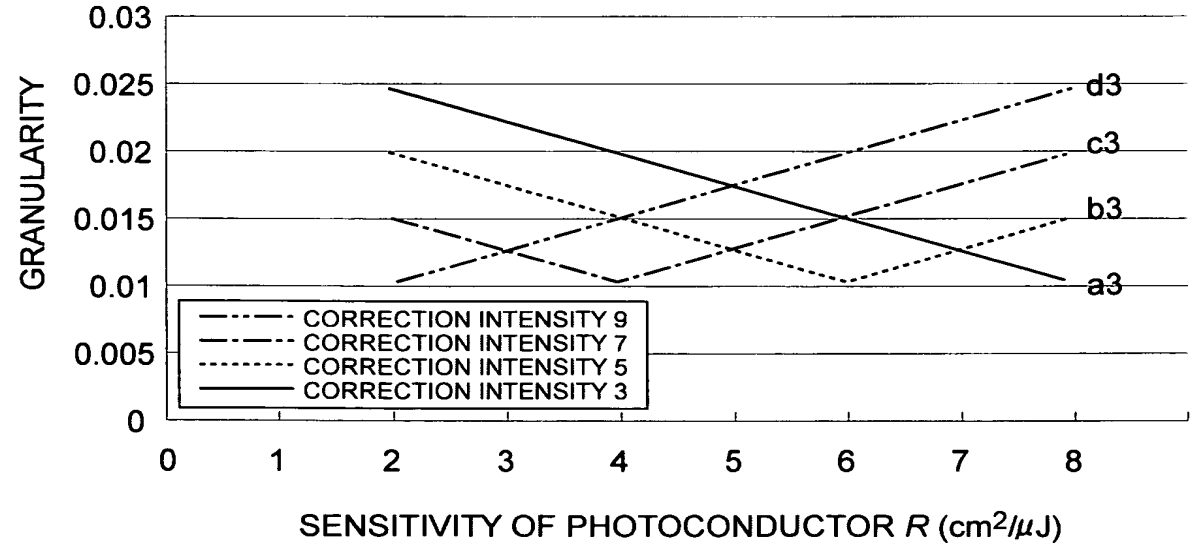


FIG. 15A

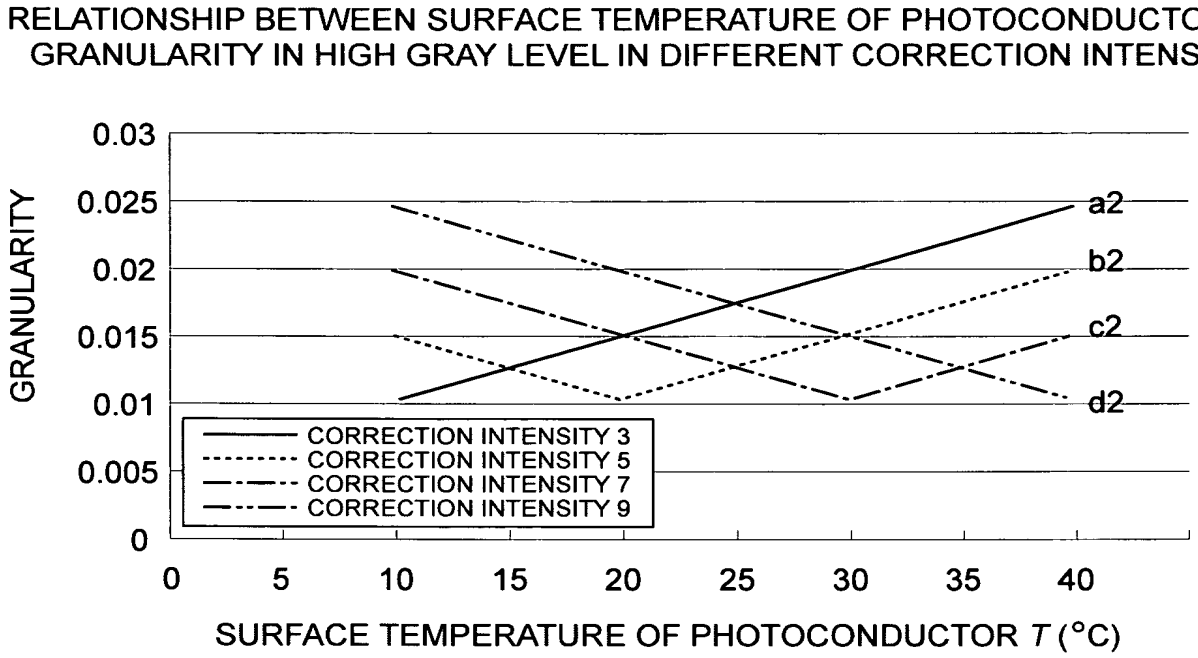


FIG. 15B

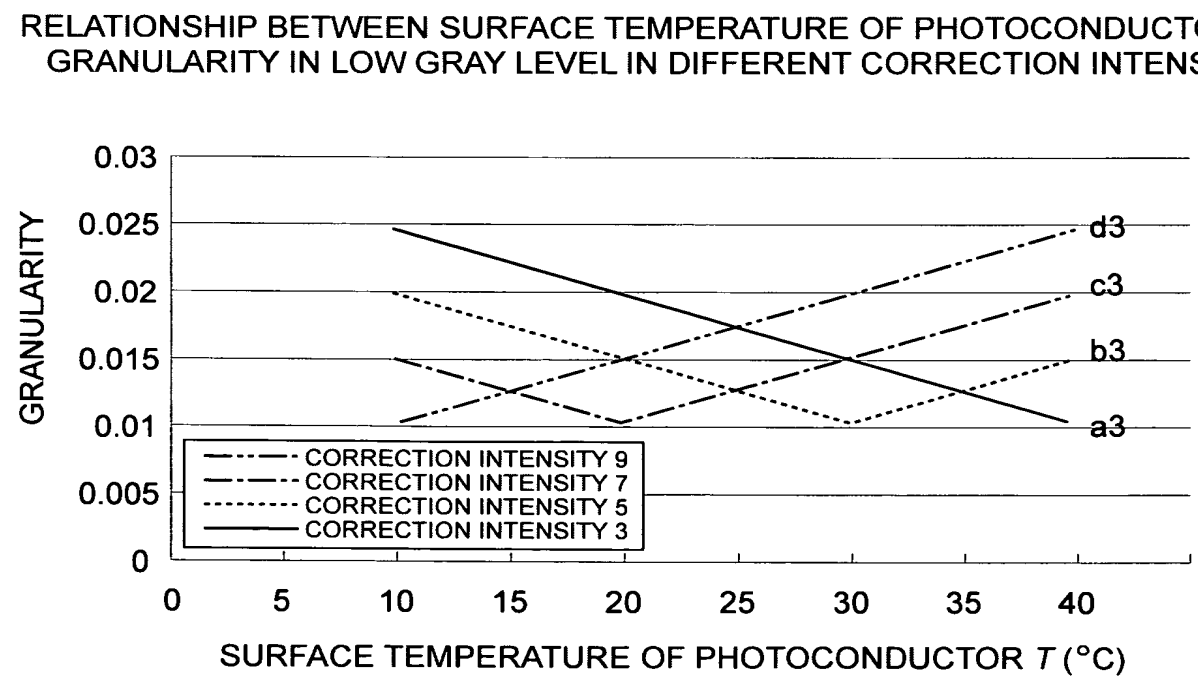


FIG. 16A

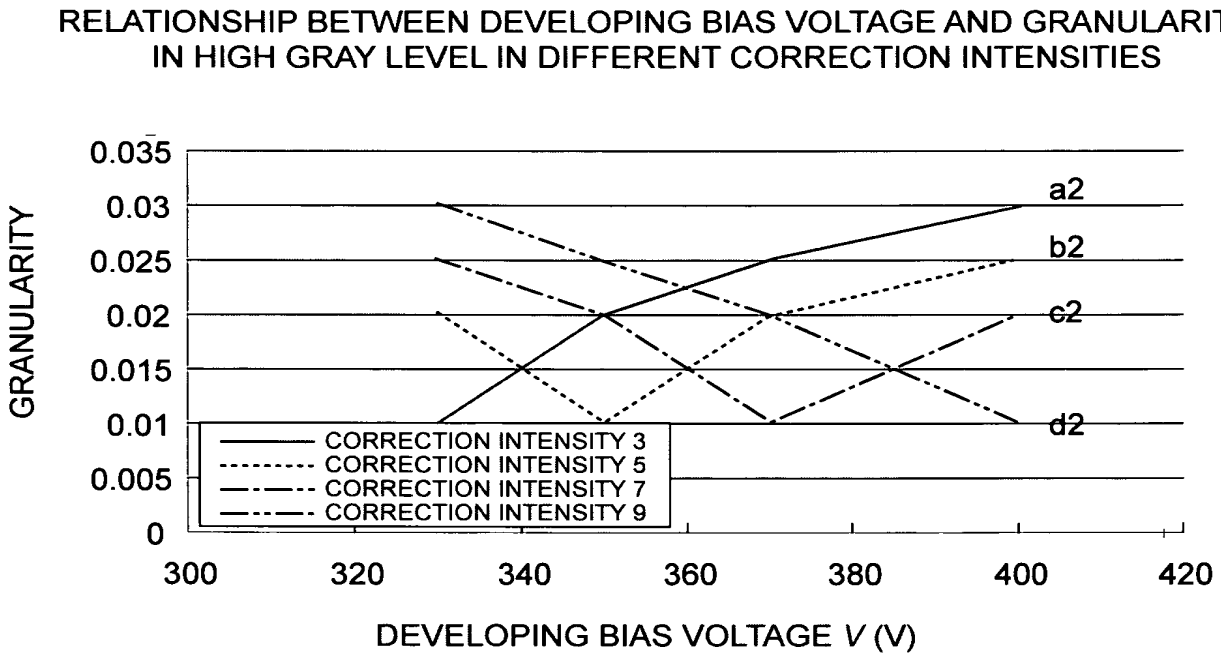


FIG. 16B

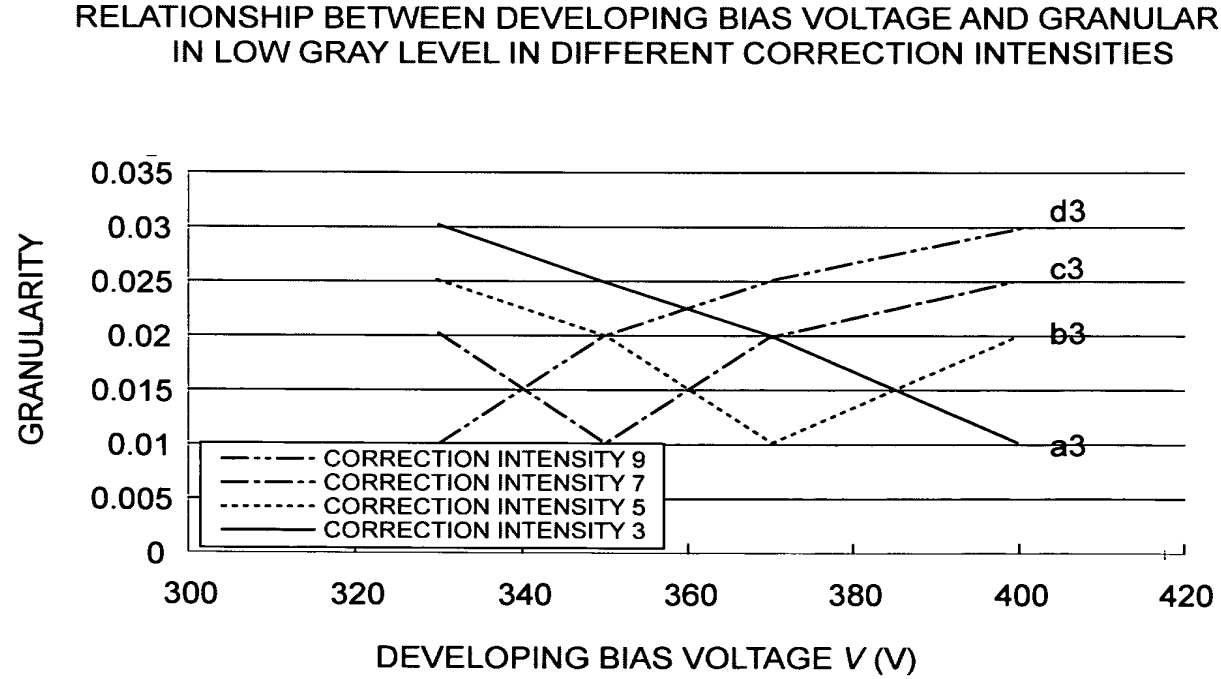


FIG. 17

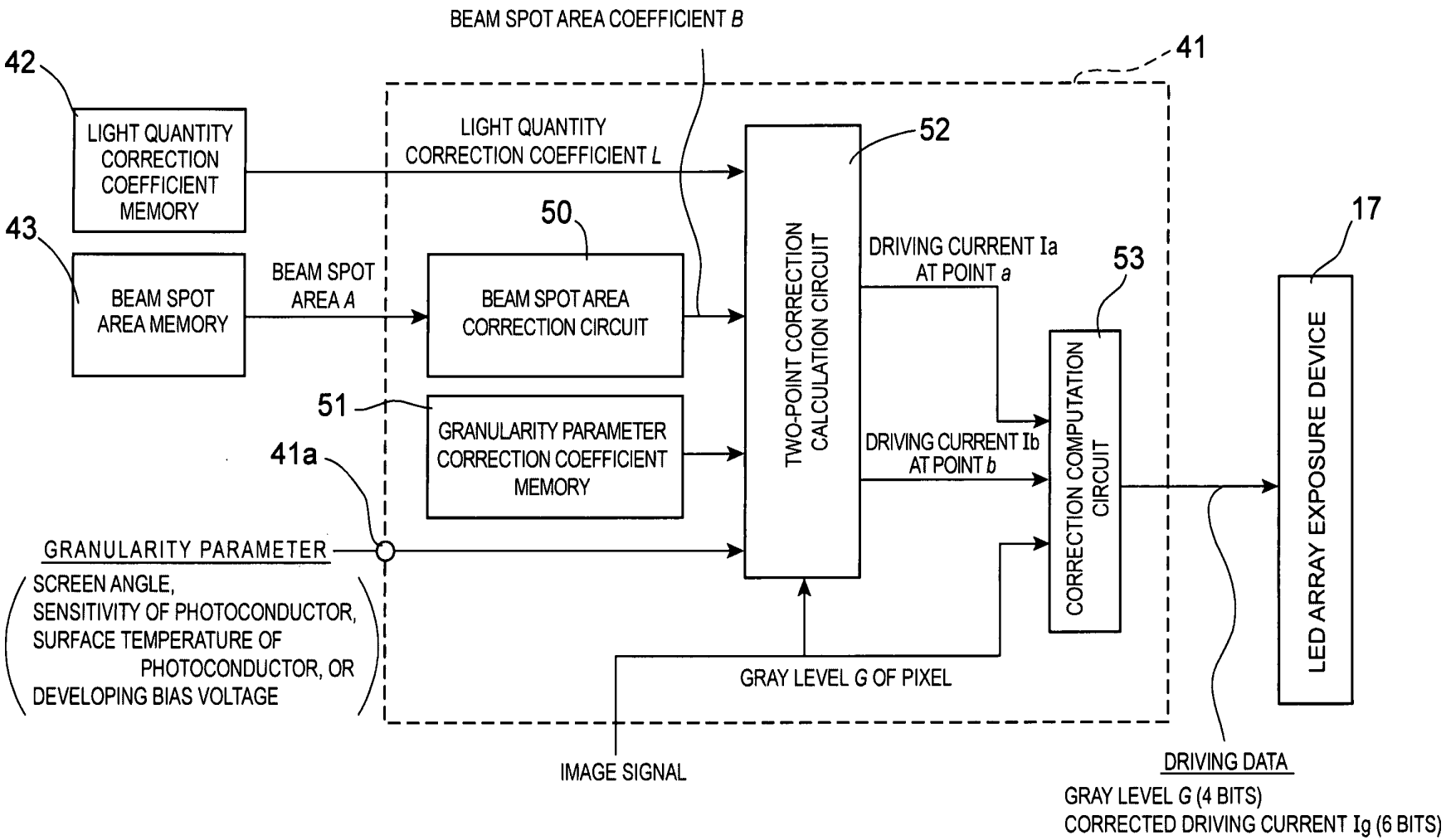

BEAM SPOT AREA COEFFICIENT B
42
41
LIGHT QUANTITY CORRECTION COEFFICIENT MEMORY
LIGHT QUANTITY CORRECTION COEFFICIENT L
52
50
43
BEAM SPOT AREA MEMORY
BEAM SPOT AREA A
BEAM SPOT AREA CORRECTION CIRCUIT
TWO-POINT CORRECTION CALCULATION CIRCUIT
DRIVING CURRENT Ia AT POINT a
53
17
51
GRANULARITY PARAMETER CORRECTION COEFFICIENT MEMORY
DRIVING CURRENT Ib AT POINT b
CORRECTION COMPUTATION CIRCUIT
LED ARRAY EXPOSURE DEVICE
41a
GRANULARITY PARAMETER
SCREEN ANGLE,
SENSITIVITY OF PHOTOCONDUCTOR,
SURFACE TEMPERATURE OF PHOTOCONDUCTOR, OR
DEVELOPING BIAS VOLTAGE
GRAY LEVEL G OF PIXEL
IMAGE SIGNAL
DRIVING DATA
GRAY LEVEL G (4 BITS)
CORRECTED DRIVING CURRENT Ig (6 BITS)

FIG. 18

S41	PIXEL	n	1	2	3	4	5
S42	GRAY LEVEL OF PIXEL	G	5	2	7	10	4
S43	GRANULARITY PARAMETER						
	-SCREEN ANGLE	S	90°				
	-SENSITIVITY OF PHOTOCONDUCTOR	R	4 $cm^2/\mu J$				
	-SURFACE TEMPERATURE	T	30℃				
	-DEVELOPING BIAS VOLTAGE	V	320V				
S44	LIGHT QUANTITY CORRECTION COEFFICIENT	L	1.1	0.8	1.5	0.9	1
S45	BEAM SPOT AREA	A	10	8	15	5	12
S46	AVERAGE OF BEAM SPOT AREAS	M	10				
S47	DIFFERENCE (M-A)	D	0	2	-5	5	-2
S48	RATIO (D／M)	P	0	0.2	-0.5	0.5	-0.2
S49	BEAM SPOT AREA CORRECTION COEFFICIENT	B	ASSIGNING WEIGHT TO RATIO (P)				
S50-1	CORRECTION COEFFICIENT AT POINT *a*	Ca	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) IN LOW GRAY LEVEL				
S50-2	CORRECTION COEFFICIENT AT POINT *b*	Cb	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) IN HIGH GRAY LEVEL				
S51-1	DRIVING CURRENT AT POINT *a*	Ia	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (Ca) AT POINT *a*				
S51-2	DRIVING CURRENT AT POINT *b*	Ib	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (Cb) AT POINT *b*				
S51-3	CORRECTED DRIVING CURRENT	Ig	LIEAR INTERPOLATION FROM Ia TO Ib ACCORDING TO GRAY LEVEL *G* OF PIXEL				

FIG. 19

S61	PIXEL	n	1	2	3	4	5	6	7	8	9	... N
S62	GRAY LEVEL OF PIXEL	G	5	2	7	10	4	1	14	3	9	...
S63	GRANULARITY PARAMETER											
	-SCREEN ANGLE	S	90°									
	-SENSITIVITY OF PHOTOCONDUCTOR	R	4 $cm^2/\mu J$									
	-SURFACE TEMPERATURE	T	30℃									
	-DEVELOPING BIAS VOLTAGE	V	320V									
S64	LIGHT QUANTITY CORRECTION COEFFICIENT	L	1.1	0.8	1.5	0.9	1	0.5	1.2	1.3	0.5	...
S65	BEAM SPOT AREA	A	10	8	15	5	12	14	6	9	10	...
S66-1	MOVING AVERAGE OF BEAM SPOT AREAS	M1	10									
S66-2		M2		10.8								
S66-3		M3			10.4							
S66-4		M4				9.2						
S66-5		M5					10.2					
S67	DIFFERENCE (M-A)	D	0	2.8	-4.6	4.2	-1.8	...				
S68	RATIO (D／M)	P	0	0.26	-0.44	0.46	-0.18	...				
S69	BEAM SPOT AREA CORRECTION COEFFICIENT	B	ASSIGNING WEIGHT TO RATIO (P)									
S70-1	CORRECTION COEFFICIENT AT POINT *a*	Ca	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) IN LOW GRAY LEVEL									
S70-2	CORRECTION COEFFICIENT AT POINT *b*	Cb	BEAM SPOT AREA CORRECTION COEFFICIENT (B) X CORRECTION COEFFICIENT FOR SCREEN ANGLE (S) IN HIGH GRAY LEVEL									
S71-1	DRIVING CURRENT AT POINT *a*	Ia	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (Ca) AT POINT *a*									
S71-2	DRIVING CURRENT AT POINT *b*	Ib	STANDARD DRIVING CURRENT X LIGHT QUANTITY CORRECTION COEFFICIENT (L) X CORRECTION COEFFICIENT (Cb) AT POINT *b*									
S71-3	CORRECTED DRIVING CURRENT	Ig	LIEAR INTERPOLATION FROM Ia TO Ib ACCORDING TO GRAY LEVEL *G* OF PIXEL									

FIG. 20

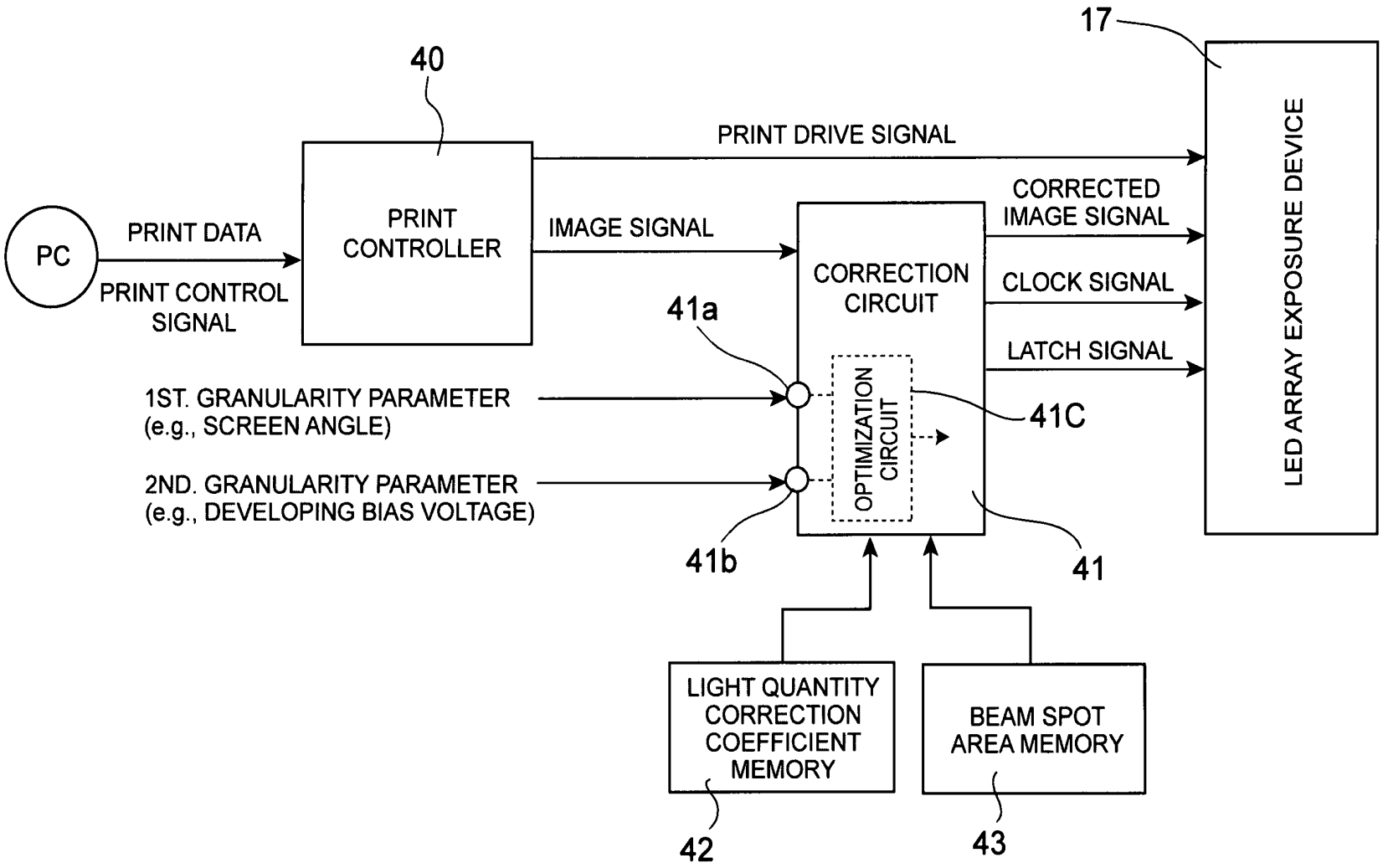
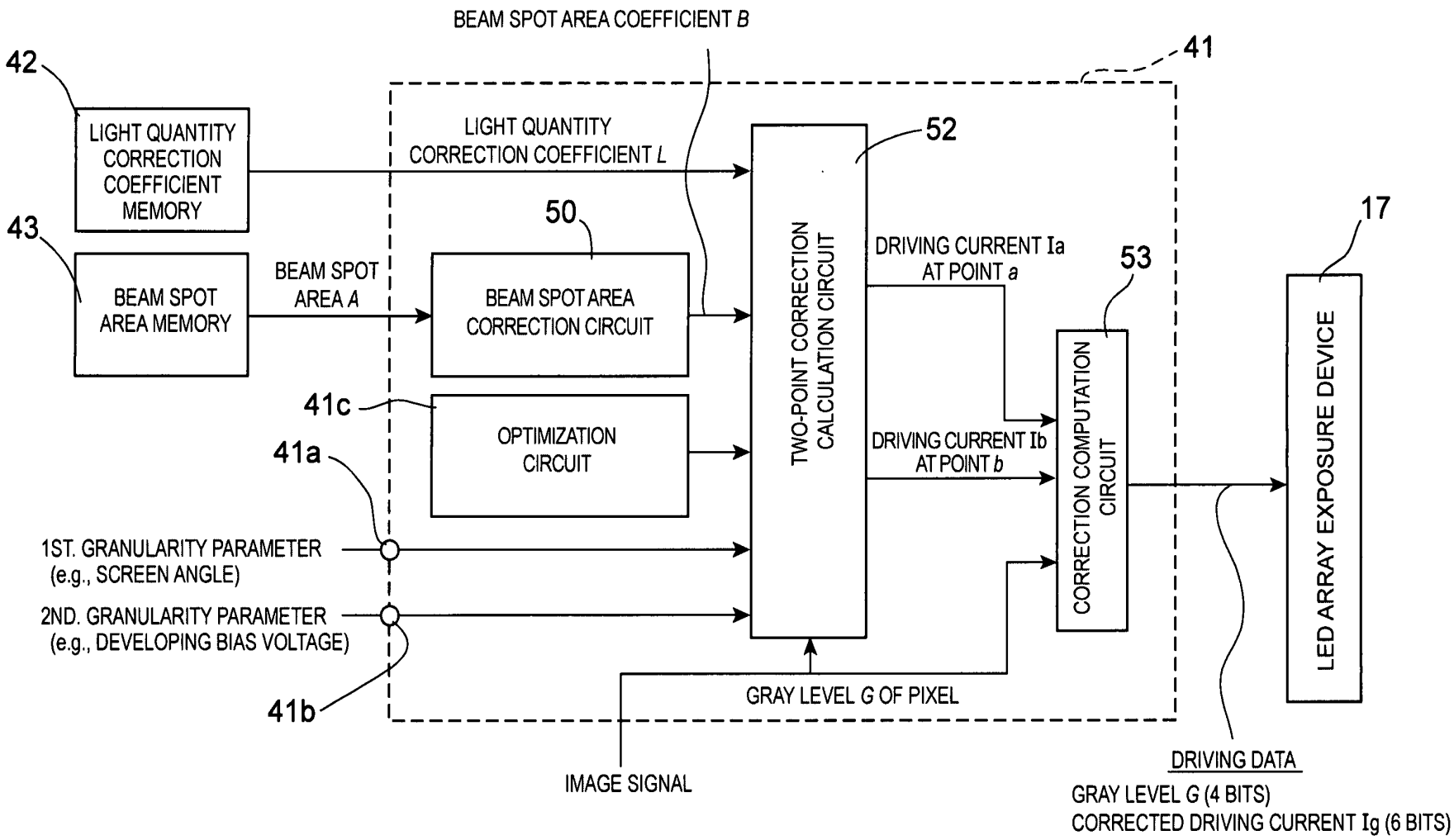

17
40
PRINT DRIVE SIGNAL
PC
PRINT DATA
PRINT CONTROL SIGNAL
PRINT CONTROLLER
IMAGE SIGNAL
CORRECTION CIRCUIT
CORRECTED IMAGE SIGNAL
CLOCK SIGNAL
LATCH SIGNAL
LED ARRAY EXPOSURE DEVICE
41a
1ST. GRANULARITY PARAMETER (e.g., SCREEN ANGLE)
2ND. GRANULARITY PARAMETER (e.g., DEVELOPING BIAS VOLTAGE)
OPTIMIZATION CIRCUIT
41C
41b
41
LIGHT QUANTITY CORRECTION COEFFICIENT MEMORY
BEAM SPOT AREA MEMORY
42
43

FIG. 21


BEAM SPOT AREA COEFFICIENT B
41
42
LIGHT QUANTITY CORRECTION COEFFICIENT MEMORY
LIGHT QUANTITY CORRECTION COEFFICIENT L
52
50
43
BEAM SPOT AREA MEMORY
BEAM SPOT AREA A
BEAM SPOT AREA CORRECTION CIRCUIT
TWO-POINT CORRECTION CALCULATION CIRCUIT
DRIVING CURRENT Ia AT POINT a
53
17
41c
OPTIMIZATION CIRCUIT
DRIVING CURRENT Ib AT POINT b
CORRECTION COMPUTATION CIRCUIT
LED ARRAY EXPOSURE DEVICE
41a
1ST. GRANULARITY PARAMETER (e.g., SCREEN ANGLE)
2ND. GRANULARITY PARAMETER (e.g., DEVELOPING BIAS VOLTAGE)
41b
GRAY LEVEL G OF PIXEL
IMAGE SIGNAL
DRIVING DATA
GRAY LEVEL G (4 BITS)
CORRECTED DRIVING CURRENT Ig (6 BITS)